Celebrating 20 years!

DELAWARE CENTER FOR THE
INLAND BAYS
Research. Educate. Restore.

SPRING | SUMMER 2014

Inland Bays Journal

DO YOU KNOW YOUR CREEK?

CIB Launches *Your Creek* Project with Love Creek

by Sally Boswell, Education & Outreach Coordinator

There is water everywhere here. Of course, the Atlantic Ocean…the big water, but walk west from the beach and you are soon in sight and sound of the coastal lagoons known as the Inland Bays. Cross those Bays and travel west, up the rivers and creeks and you will pass through saltmarshes until you reach the 'head of tide,' where the influence of the salty tides ends, and creeks are fresh.

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In the end, we will protect only what we love.
We will love only what we understand.

—Baba Dioum

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The *Inland Bays Journal* is a publication of the Delaware Center for the Inland Bays. The CIB is a nonprofit organization and a National Estuary Program. The purpose of the *Inland Bays Journal* is to educate and inform citizens and visitors to the Inland Bays watershed about this "estuary of national significance."

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FROM THE EXECUTIVE DIRECTOR

Is this the make or break moment for cleaning up our water?

Dear Friends of the Bays,

On March 4, the Governor proposed to clean up Delaware's polluted waters within a generation. It is a bold and thoughtful proposal that will ask all property owners to contribute a modest amount to raise $30 million annually for clean waters in Delaware.

CAN WE AFFORD TO MAKE THIS SACRIFICE? The fees would be collected through county property taxes, which for most property owners would be less than $1 per week.

The waters of the Inland Bays may contain organisms that could be harmful to your health. Swimming could result in an increased risk of rashes, infections or gastrointestinal distress, especially during and after rainfall.
For your health and safety, please swim at beaches with lifeguards where the water quality is tested weekly. For information on beach water quality or to report illnesses resulting from contact with these waters, please call 1-800-922-WAVE or visit www.dnrec.state.de.us

Water promises to be to the 21st century what oil was to the 20th century: the precious commodity that determines the wealth of nations. *Fortune* magazine

CAN WE AFFORD NOT TO MAKE THIS SACRIFICE?

- Our creeks are often high in bacteria and are posted with warnings against swimming
- Oysters, herring, and weakfish that once supported whole industries are now rare
- Consumption advisories exist for striped bass and bluefish because of PCBs and mercury
- Baygrasses that need clear water to survive, have almost disappeared due to pollution
- Threats to the Bays continue to mount with sprawling development and sea level rise
- Our aquifers remain contaminated with nitrates that are bad for our bodies and waters

The Center for the Inland Bays and its partners continue to demonstrate innovative and cost-effective solutions to restore the Bays, but the work is sorely underfunded to meet the challenges. DNREC's 2008 *Pollution Control Strategy* for the Inland Bays stated that at least $25 million per year is needed to clean up the Bays. One example of how we fall short is for cover crops, those plantings that keep nutrients in farm fields instead of leaching to the Bays where they pollute. For years, we have fallen about a million dollars short of the estimated $1,317,292 needed to meet the Strategy's goal for cover crops alone. A substantial sustained investment is necessary to restore the Inland Bays.

Since 1972, when the Clean Water Act became law, tremendous progress has been made to reduce both point and non-point sources of pollution into our waterways, so we know that bold action can bring about great change.

The Governor has challenged us to work together for clean water in Delaware; to end Delaware's embarrassing legacy of dirty waters and polluted sites; for each of us to make a small investment toward the day when we can see clearly down through safe, clean waters to bountiful bay grasses, fish, and shellfish thriving in a healthy estuary. The Governor's proposal will need strong support to pass.

Chris Bason
Executive Director

(Your Creek continued from page 1)

Along the way, sometimes in plain sight, there are vernal pools and rare fens, and the remnants of Delmarva Bays. Further inland, there are millponds aplenty, many from the 1700's where rivers and creeks were dammed to create power for sawmills and grist mills. If you could make your way to the headwaters, you might find yourself in a forested wetland, in a wild place of springs and seeps, or in the granddaddy of all swamps in these parts, the Great Cypress Swamp…source of the headwaters of Vines Creek and Pepper Creek.

If you grew up here, in the time of 'free-range' kids, you might have known your local creek intimately; known the best place to fish or catch crabs, and thought of it as your own secret playground where you could muck around in the water building dams and staying cool on hot days.

But a lot of us grew up on other rivers in other places and we don't know these creeks.

This spring, the CIB, led by *Your Creek* teams from the Citizens Advisory Committee launched the *Your Creek* initiative to introduce people in the watershed to their local creek.

Many of us never notice our creeks except where there are bridge crossings, so the team chose three creeks with prominent bridge crossings to begin *Your Creek* project; one in each bay; Love Creek on Rehoboth Bay, Vines and Pepper Creek on Indian River Bay and Dirickson Creek on Little Assawoman Bay.

The team will use Love Creek as a prototype for the project, pulling together data, photos, maps, stories, citizen input and other information to produce a *Your Creek* report for Love Creek. *(continued on page 5)*

Nancy Cabrera-Santos, chair of the CIB Citizen's Advisory Committee, has been building the CAC one great volunteer at a time, identifying talent and commitment and deploying them to drive projects forward.

For the *Your Creek* project, she tapped Bob Batky, who joined the CAC three years ago after a 34 year career in the U.S. Fish and Wildlife Service where he was chief of planning for fisheries. Since coming to the CIB, Bob has also led a team for the Inshore Fish Survey, now in its fourth year. That project brought him back together with Ron Kernehan, a retired fish scientist who developed and leads the Inland Bays Inshore Fish Survey, and with Roy Miller, Policy Coordinator for the CIB, also on the fish survey team. The three of them worked together on the striped bass restoration program on Chesapeake Bay earlier in their careers.

"It was the culture of consensus building and the commitment to science-based action that drew me to the Center for the Inland Bays after my retirement," said Batky. "The *Your Creek* project has the added power of community-centered action; through this project we can engage community members who live around our creeks and work together with them to identify issues that impact the creeks and the bays, and those things that individuals can do in their community and to influence county decision makers."

The *Your Creek* project is looking for team members for Love Creek, Vines and Pepper Creeks and Dirickson Creek. If you'd like to be on a team contact Sally Boswell at outreach@inlandbays.org.

In 2005, there was no native plant sale in Sussex County and there was a huge migration of new residents moving to coastal Sussex, many from the Piedmont regions of Maryland, D.C. Pennsylvania and Virginia. The population around the bays was exploding and new communities and homeowners were settling in and planting gardens.

"I saw a huge potential to help new residents learn about gardening here around the Bays with native plants," said Sally Boswell, who had just joined the CIB as Education and Outreach Coordinator. "Many who moved here are part-time residents, so 'going native' with plants that are adapted to our climate and soil conditions and require less attention once they're established, make them a win-win for the homeowner and for the Bays."

The Gardening for the Bays Native Plant Sale was also a chance to invite local nurseries to participate and see first-hand the growing interest in, and market for native plants. Environmental Concern, a non-profit organization in St. Michaels, Maryland with a large native plant nursery has participated in our sale every year since the start and reported to us that it is now their biggest plant sale of the year. Local nurseries that participate include Nature Design of Bethany Beach, East Coast Garden Center from Millsboro, Envirotech Environmental Consulting from Lewes and Roots Nursery from Selbyville bringing a wide selection of natives for our maritime climate and coastal soils.

The sale has been chaired by Pat Drizd, the CIB (volunteer) Volunteer Coordinator for eight of its ten years. An avid gardener herself, she leads the volunteer planning committee that begins work each January. She said, "After ten years, there are still new gardeners to reach and teach about native plants."

As Dr. Doug Tallemy noted in his book *Bringing Nature Home*, 'Gardeners have become important players in the management of our nation's wildlife."

He makes the case that as we lose open space and wilderness that once harbored our native species of plants and animals, planting native plants in our backyards can provide a welcoming environment for wildlife of all kinds and help to sustain them.

Below: Nature Design of Bethany Beach is one of five vendors bringing trees, shrubs, ferns, grasses and flowers along with good advice and expertise to the sale.

Native Plant Sale celebrating 10 years

Gardening for the Bays

10th Annual Gardening for the Bays Native Plant Sale

Saturday, May 3
9 a.m.–1 p.m.

James Farm Ecological Preserve

Cedar Neck Road in Ocean View, DE

Local beekeeper, James Carfagno, shows and tells the story of bees, some of our most important native pollinators, crucial to our backyard gardens and commercial agriculture.

The sale is the CIB's biggest annual event and one that many 'save the date' for each year. In addition to the nurseries selling native plants, there is help and advice for gardeners. This year, the Master Gardeners celebrate their tenth year with the sale, answering questions and providing information. The Delaware Nature Society is a regular participant, showing gardeners how to make their garden a 'backyard habitat.' Local beekeeper, James Carfagno, will show and tell the story of bees, some of our most important native pollinators, crucial to our backyard gardens and commercial agriculture.

Special events include an early morning bird walk led by the Sussex Bird Club, a nature walk through the preserve, a pruning demonstration and fun crafts to do at the Children's Tent. There will be rain barrels on sale and, for those who'd like to make their own, a 'Make your own Rain Barrel' event.

This year, Juice Bar of Bethany Beach will be on hand with coffee, juice, breakfast treats, sandwiches and snacks. So come early and spend the day at James Farm.

Special thanks to Don Minyon who has brought music and fun to the plant sale each year adding life to the party.

(Your Creek continued from page 3)

Love Creek, is a major tributary that flows into Rehoboth Bay from the northwest. Many people know it because it crosses Route 24 a few miles west of Coastal Highway. With all the traffic, it's not easy to get a good look at it from the bridge, but if you can sneak a peek, it's a good vantage point. Looking downstream, there's a marina, with boat slips and boat storage and you can see the creek widening out as it flows toward Rehoboth Bay. Looking upstream, the creek narrows, the banks are fringed with salt marsh, the shoreline is wooded and it looks like a paddler's paradise.

Each creek in the watershed has its own story. Through this initiative, the teams plan to gather up those stories and share them. Over the next few years, fourteen major tributaries that flow into the three Inland Bays will each have a team and maybe in time, some will have their own 'Friends of…' group to keep an eye on them.

Get on board with the Bays.
The Center's mission is to find ways to protect and enhance the Bays. Working with volunteers and scientists, we support research to help everyone make better decisions about things that affect the area. We are able to educate and engage adults, children and local communities while striving to protect and restore native habitats.
Your support makes this possible.
Are you ready to get on board with the Bays?
Join or renew TODAY as a Friend of the Bays.
DELAWARE CENTER FOR THE
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Research. Educate. Restore.
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Rehoboth | Indian River | Little Assawoman

Floating Islands & Oysters Offer Hope for Cleaner Waters

Bringing life back to dead-end canals.

Illustration courtesy of BioHaven® Floating Islands

An innovative project aimed at improving water quality in dead-end canals will come to South Bethany this year. Dead-end canals or lagoons are the network of dead-end waterways excavated to create waterfront property in residential communities.

The Center for the Inland Bays, was awarded a grant to install a unique demonstration project using oysters and floating wetlands in a dead end canal in South Bethany.

In the Delaware Inland Bays—Rehoboth, Indian River, and Little Assawoman Bays—there are 26 miles of dead-end lagoons. Though dead-end canals are a common feature of residential developments throughout Delaware's coastal bays and provide water access to thousands of coastal residents, these waterways have suffered from pollution.

This is not just a local problem. Studies conducted by the Environmental Protection Agency and research institutions have shown that dead-end canals generally have poor water quality, poor sediment quality, and a depleted biological community due to poor 'flushing' and circulation. They are often deeper than adjacent waters, and because they are open at only one end, they don't benefit from tidal action and tend to stagnate. The dead canals have low dissolved oxygen levels making it difficult for many fish to survive, and high levels of nutrients that cause algae growth.

Characteristics of dead-end canals

- Poor circulation and flushing causing stagnant, polluted and turbid water.
- Low dissolved oxygen levels harmful to fish.
- Odiferous, unsightly and harmful algae blooms resulting from excessive nitrates and phosphates.
- Declining benthic, shellfish and blue crab communities.
- Proliferation and propagation of sea nettles.
- Retention of sediment and toxic materials from storm sewer outfall pipes.

Because it has proved difficult to remove pollution once it enters the water in these canals, much work has focused on eliminating the sources of pollution. Middlesex Beach, Sea Colony and South Bethany have worked with the CIB to install bio-retention basins and rain gardens around storm drains to intercept rain water and capture excess nutrients before they enter the canals.

This new project incorporates two components. Large wire cages will be filled with oysters and placed in the canal. Because oysters are highly efficient at removing nutrients from water, filtering up to 50 gallons of water per day, these oysters will act as 'mini water treatment plants.'

The second component, the floating island, has never been used in the Inland Bays watershed. Constructed of durable, non-toxic, recycled plastics, the 'island' is planted with native grasses and aquatic plants. The roots of the plants take up nutrients which are stored in the plants, then harvested and removed from the system each winter. The plants also produce oxygen and pump it through the roots and into the water.

Bart Wilson, CIB Science and Technical Coordinator and project manager said, "We hope to develop a real time monitoring network to evaluate the effectiveness of the project in improving water quality as compared to other canals without the oyster cages and floating island."

It is hoped that this project can bring clearer water and more marine life to these dead-end corners of the Inland Bays.

The grant to fund this project was provided by the Delaware Water Infrastructure Advisory Council's Community Water Quality Improvement program. The town of South Bethany and contractor, CARDNO Entrix are our partners on the project.

Partners bag shell for a restoration project.

DELAWARE'S FIRST SHELL RECYCLING PROGRAM

"Don't Chuck your Shucks!"

Aims to jumpstart restoration with recycled oyster shell from local restaurants.

by E.J. Chalabala, Aquatic Restoration Coordinator

Oysters are more than just a delectable seafood item. Their shell is a limited natural resource that provides numerous benefits for restoration projects on the Bays.

For years, oyster shell has been used to build roads, driveways and houses, with unused shell going to landfills. But given the critical shortage and expense of shell for use in restoring and enhancing Delaware's waterways, the Center for the Inland Bays and its partners, are launching 'Don't Chuck Your Shucks,' a first-in-Delaware, oyster shell recycling program.

Trash to Treasure…
the benefits of oyster shell

- **Creates habitat for more oysters**—oysters grow as reefs and need hard subtract to form.
- **Cleaner water through nutrient removal**—one adult oyster can filter up to 50 gallons per day.
- **Creates a productive ecosystem**—as many as 57 aquatic species in the Inland Bays can be found where shell is present.
- **Effective erosion control**— shell is bagged and used in 'living shorelines' projects.

Beginning in June, the CIB will team with area restaurants to collect oyster shell for recycling. The shells will be picked up and transported to bins where they will be unloaded and left to cure. Delaware Seashore State Park is providing a location for shell drop off and curing. It is estimated that the program will collect 8,000–10,000 pounds of shell per week during the peak oyster-eating and tourist seasons.

The recycled shell will be used for living shorelines projects, enhancement of 'bay bottom,' the Oyster Gardening program, and research projects.

"Oysters are keystone species in estuaries," said Dr. Brian Boutin, Director of Conservation Programs for the DE Chapter of The Nature Conservancy, the CIB's partner on the project. "Their reefs provide valuable nursery habitat for fish and other shellfish and can provide protection against shoreline erosion. They also act as a natural water filter. However, the habitat needed for oysters to thrive, mainly the shells of other oysters, is largely absent from the Inland Bays."

As water temperatures rise in early summer, adult oysters release eggs and sperm into our waters. Within 24 hours, fertilized eggs develop into free-swimming larvae. During their two to three weeks of development, they sink below the surface and move until they find a hard surface to settle on, ideally an oyster shell. If no suitable hard substrate is found during that time, the oyster dies.

The soft bottom found on our Bays is not conducive to oyster reproduction. But we know that oysters are living on man-made structures used for shoreline erosion control around the Inland Bays, so the opportunity exists to create more habitat for oysters by using oyster shell in restoration projects.

"The Nature Conservancy is excited to partner with the CIB to redirect a resource that would normally be lost to landfills towards the restoration of the Inland Bays," said Boutin.

Funding to establish the program was provided by the Delaware Department of Natural Resources and Environmental Control's (DNREC) Universal Recycling Grant and Loan Program.

Celebrating 20 years!

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Celebrate 20 years of protecting and preserving Delaware's Inland Bays!

Thursday, August 14, 2014, 6–9 p.m.

This special birthday event will be held at the Rehoboth Beach Country Club overlooking the gorgeous Rehoboth Bay.

The evening will include a special Raw Bar and Cocktail Reception, Live Music, a Silent and Live Auction, and more! A festive summer evening on the water…we hope you will join us to help celebrate this momentous milestone.

For more information, contact Jenn Jones at 302-226-8105 x107 or development@inlandbays.org

See you there!

Native Plant Sale Pre-Sale Cocktail Party
Friday, May 2
inlandbays.org for tickets

10th Annual Native Plant Sale
Saturday, May 3
9 a.m.–1 p.m.
James Farm Ecological Preserve

Rock and Row Recycling Regatta
Wednesday, June 11
Build a boat for the Bays
inlandbays.org for info

20th Anniversary Gala
Thursday, August 14
inlandbays.org for info

Inland Bays Clean Up
Saturday, July 12
inlandbays.org for info

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